USGS
science for a changing world

Networking Capabilities

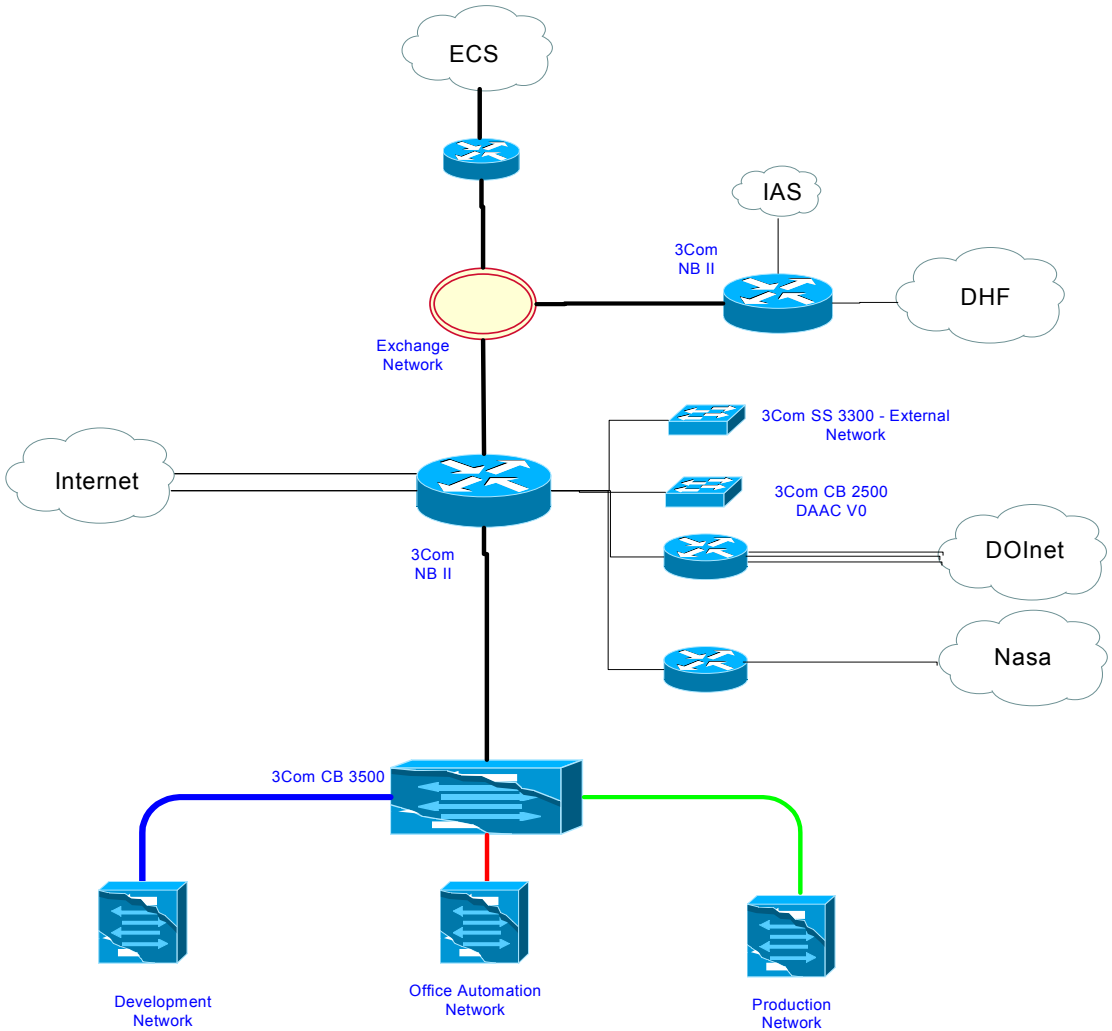
Topics

- History of the EROS Data Center (EDC) network
- Current status of Local Area Network (LAN)
- Current status of Wide Area Network (WAN)
- Future plans

History of the EDC Network

- Fddi backbone
- Fddi attached hosts
- Shared (non-switched) segments
  - 10base2
- 4 major logical networks
- NxT1 WAN (~25)
  - Dual T1 Internet access
- 3com only

Diagram of Legacy EDC Network



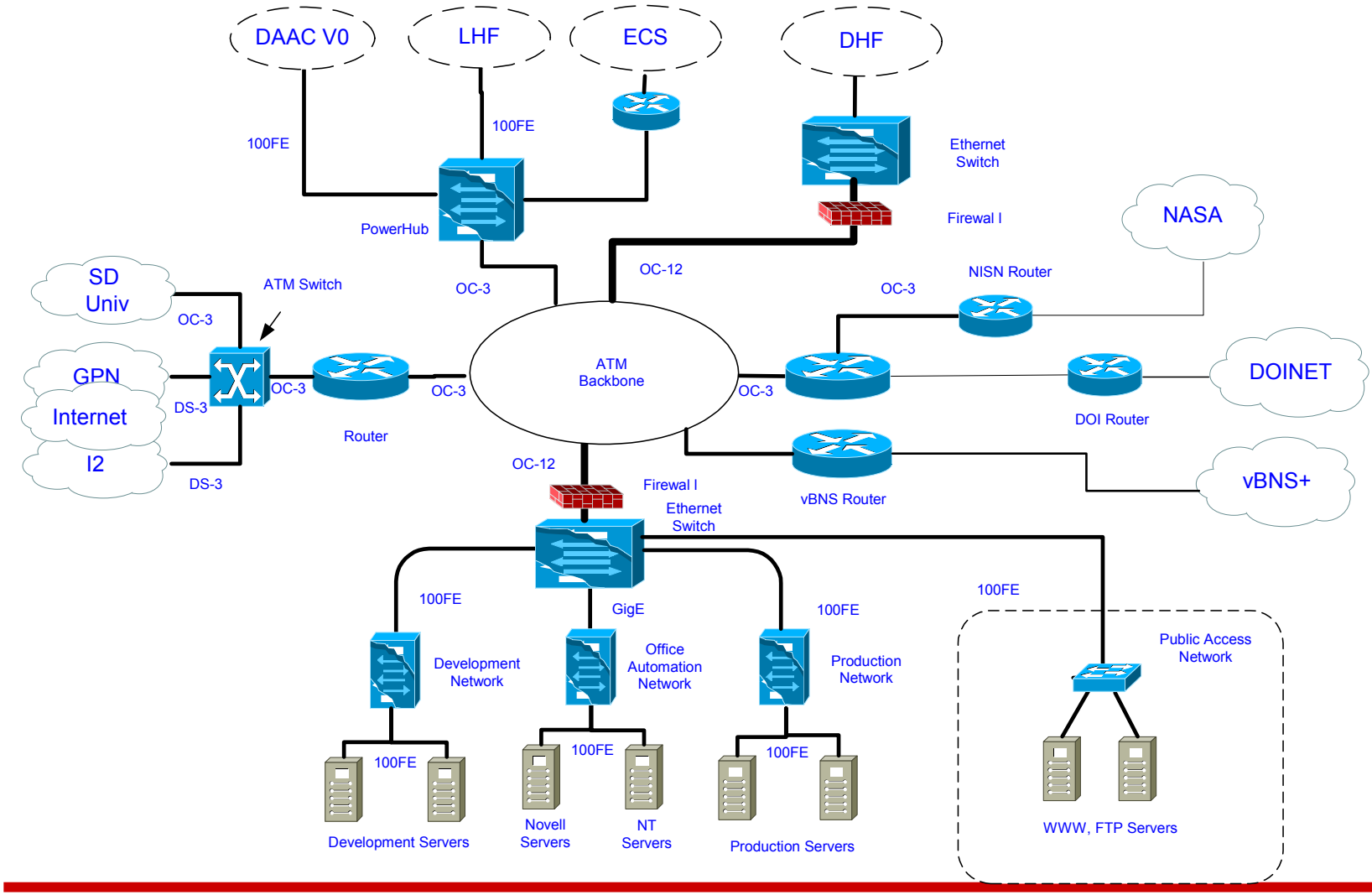
Current Status of EDC Network

- 600 PCs
- 150 Unix Workstations
- 100 Unix Servers
- 100 X-terminals
- Novell and Windows NT networks
- Macintosh

Current Status of EDC Network

- OC-12 ATM backbone
- Gigabit and FE switched networks
- 8 major logical networks
- Dual firewalls
- Combination of 3com, Fore/Marconi, Cisco and Extreme equipment

EDC Current LAN Configuration



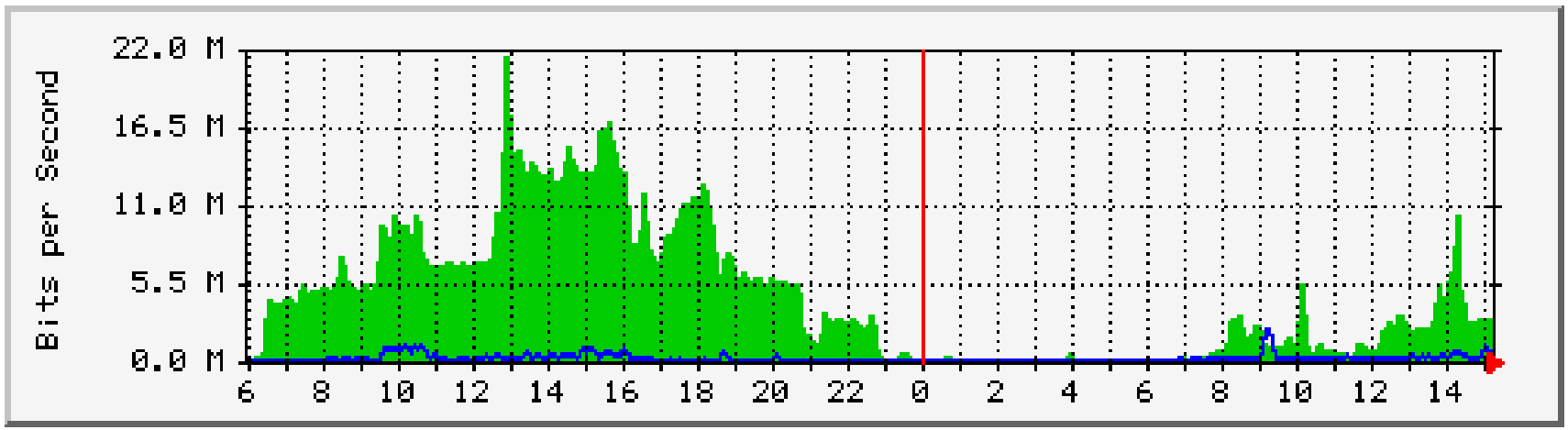
WAN Status

- ~500 Mbits/sec of WAN capacity
- 2 OC-3's
  - NASA
  - State of South Dakota
- 2 DS-3's
  - Northern Lights Gigapop
  - MCI/vBNS+
  - Dual Internet and dual I2 connections

WAN Status (cont.)

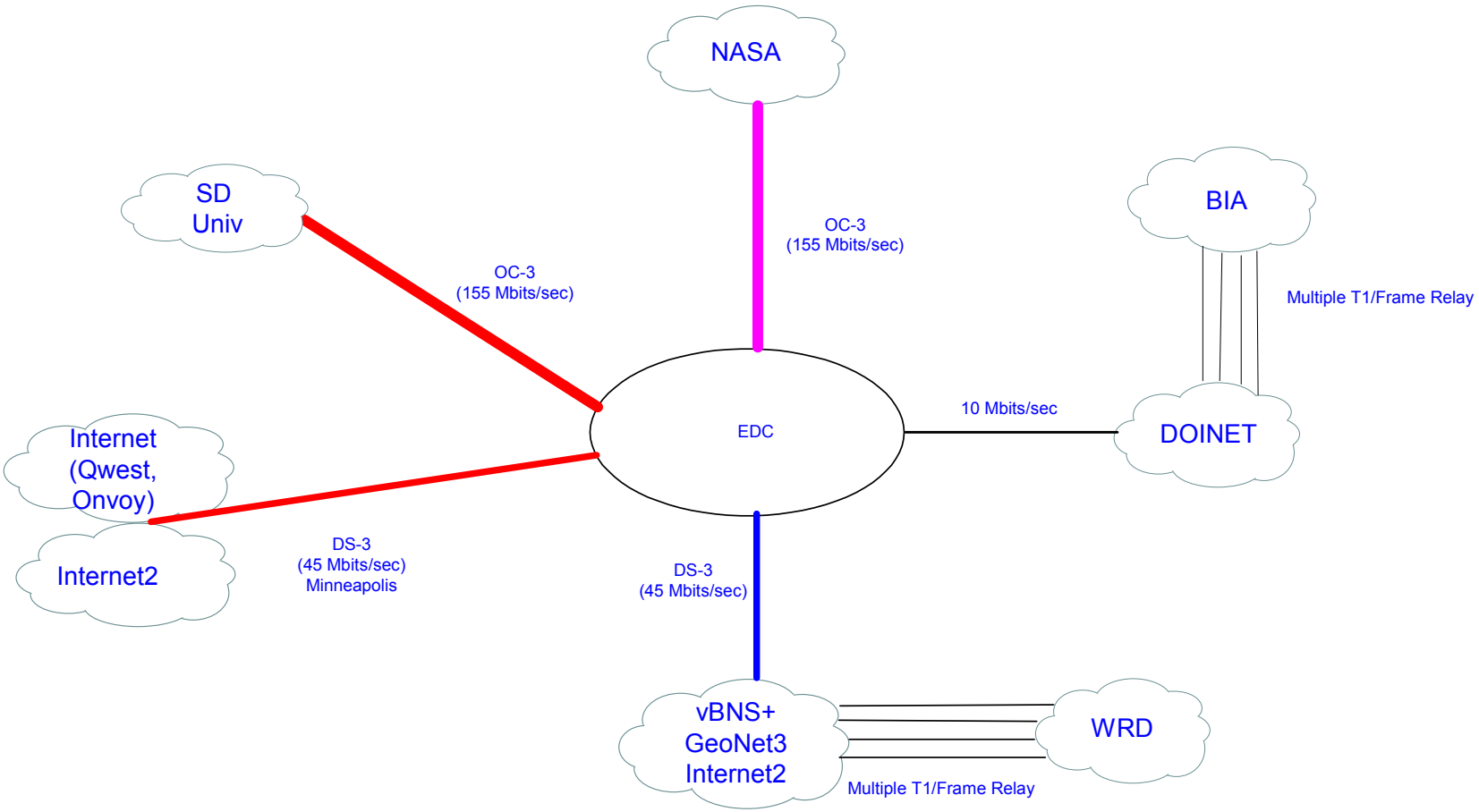
- 20 + T1's
- OC-48 connected via dark fiber to South Dakota Network (SDN)
- OC-12 connection to Splitrock for low speed circuits and telephone lines

MRTG Graph of WAN (I1/I2) Traffic



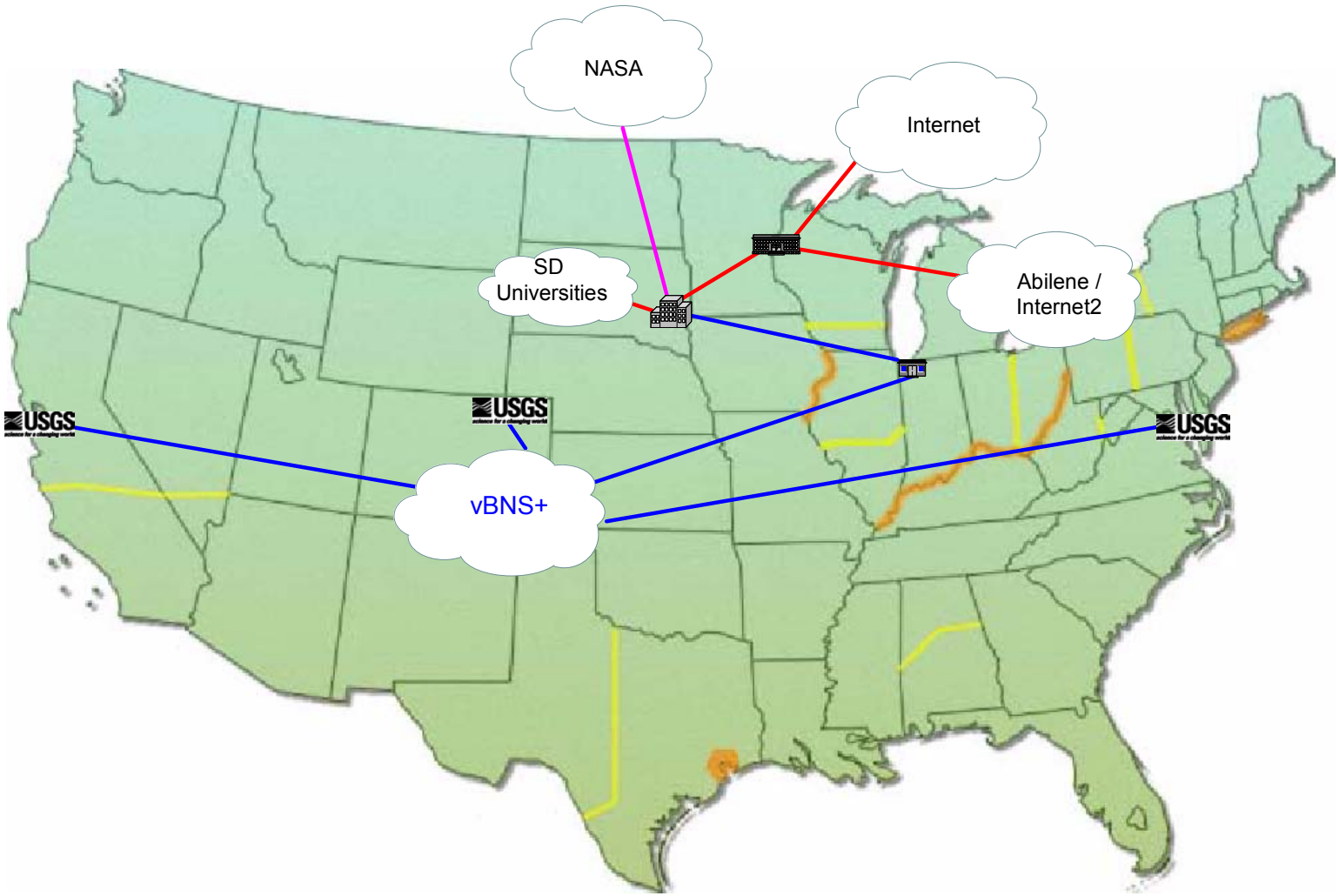
Green - incoming traffic in bits per second
Blue - outgoing traffic in bits per second

WAN Connections



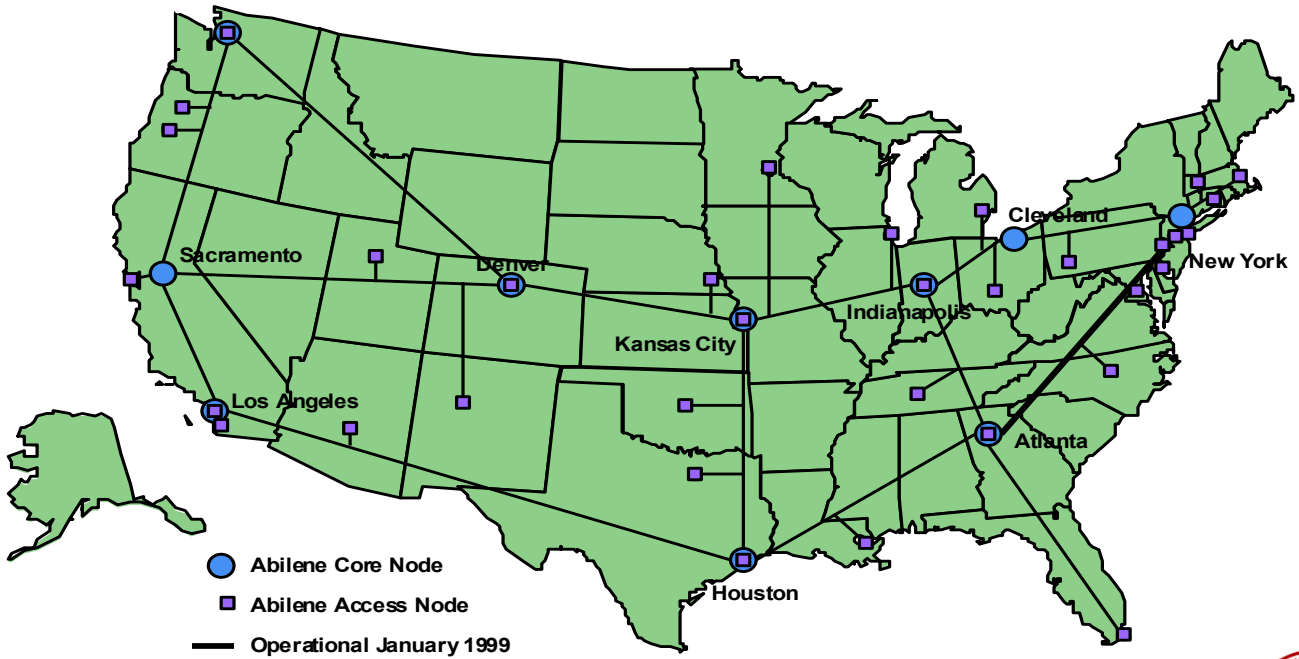
EDC Wide Area
Network Connections

Geographic WAN Connections



Abilene - Internet2 Network

Abilene Access Nodes



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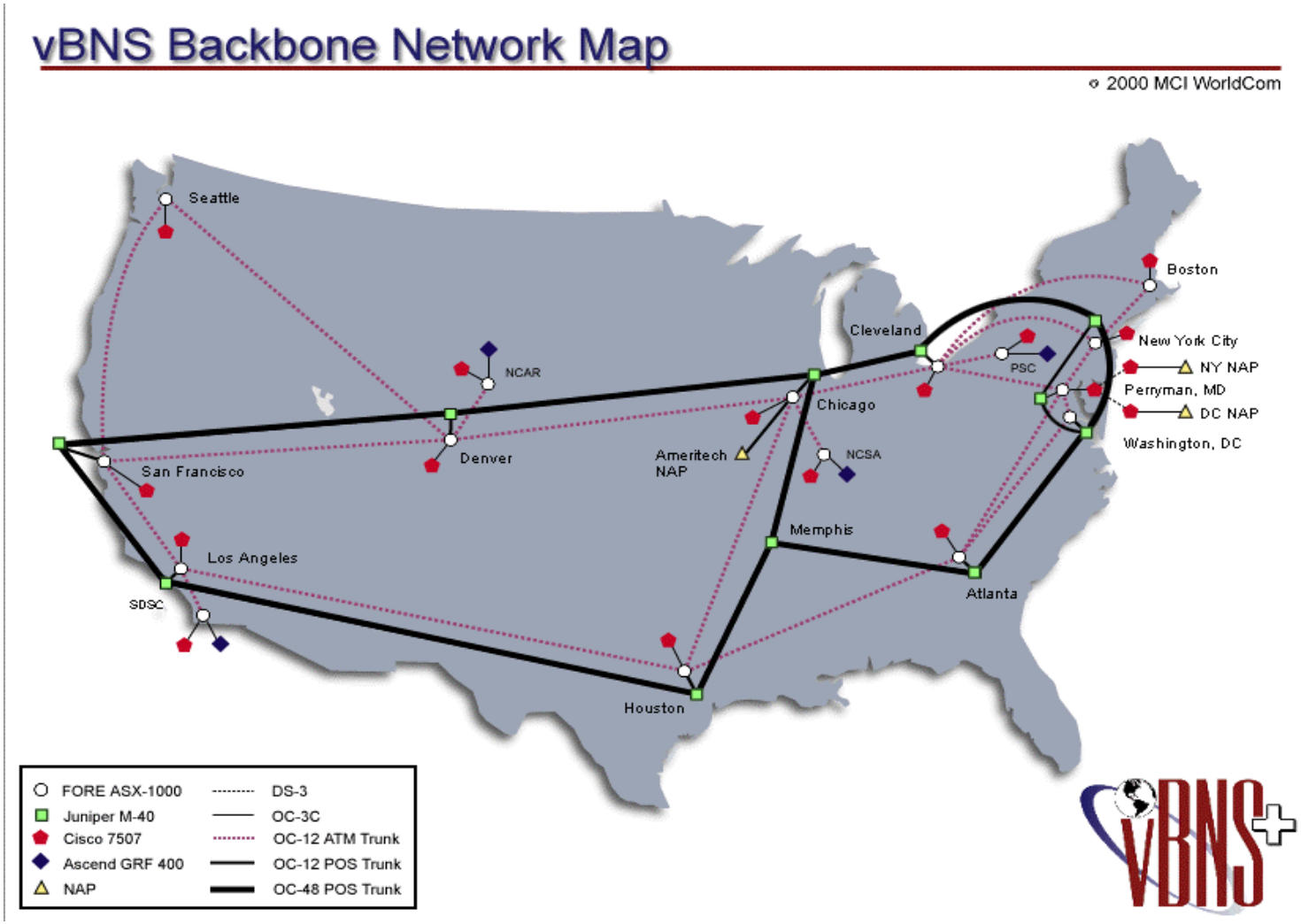
vBNS+ - Internet2 Network



Future Plans for EDC Network

- OC-12 to Ameritech
- Gigabit core
- Gigabit attached servers
- Gigabit to closets
- 802.11b wireless

EDC Future Plans